

WHAT IS CLAIMED IS:

1. An aspiration catheter comprising:
an aspiration shaft;
a proximal tube having a first lumen extending therethrough,
wherein said proximal tube is slidably disposed over said aspiration shaft; and
a distal tube having a second lumen extending therethrough,
wherein said distal tube is slidably disposed over said aspiration shaft distal to
said proximal tube, said distal tube is slidably positionable within said first
lumen, at least a proximal end of said distal tube is unremovably disposed
within said first lumen, and said aspiration shaft is unremovable from said
second lumen.
2. The aspiration catheter according to claim 1, wherein a distal
aspiration port disposed at a distal tip of said aspiration shaft is set at an
oblique angle.
3. The aspiration catheter according to claim 1, wherein a
diameter of a distal portion of said aspiration shaft is larger than a diameter of
a proximal portion of said aspiration shaft.
4. The aspiration catheter according to claim 1, further comprising
a guidewire shaft having a guidewire lumen disposed adjacent to said
aspiration shaft.
5. The aspiration catheter according to claim 4, wherein said
guidewire shaft is disposed along a distal segment of said aspiration shaft.
6. The aspiration catheter according to claim 1, further
comprising:

a first proximal stop fixedly attached to an interior surface of said proximal tube on a proximal end thereof;

a first distal stop fixedly attached to the interior surface of said proximal tube on a distal end thereof;

a second proximal stop fixedly attached to an exterior surface of said distal tube on a proximal end thereof;

a third proximal stop fixedly attached to an interior surface of said distal tube on a proximal end thereof;

a second distal stop fixedly attached to the interior surface of said distal tube on a distal end thereof; and

a fourth proximal stop fixedly attached to an exterior surface of said aspiration shaft in a distal region thereof.

7. An aspiration catheter comprising:

an aspiration shaft;

a proximal tube having a first lumen extending therethrough, wherein said proximal tube is slidably disposed over said aspiration shaft;

a middle tube having a second lumen extending therethrough, wherein said middle tube is slidably disposed over said aspiration shaft distal to said proximal tube, said middle tube is slidably positionable within said first lumen, and at least a proximal end of said middle tube is unremovably disposed within said first lumen; and

a distal tube having a third lumen extending therethrough, wherein said distal tube is slidably disposed over said aspiration shaft distal to said middle tube, said distal tube is slidably positionable within said second lumen, at least a proximal end of said distal tube is unremovably disposed within said second lumen, and said aspiration shaft is unremovable from said third lumen.

8. The aspiration catheter according to claim 7, further comprising a guidewire shaft having a guidewire lumen disposed adjacent to said aspiration shaft.

9. The aspiration catheter according to claim 7, further comprising:

- a first proximal stop fixedly attached to an interior surface of said proximal tube on a proximal end thereof;

- a first distal stop fixedly attached to the interior surface of said proximal tube on a distal end thereof;

- a second proximal stop fixedly attached to an exterior surface of said middle tube on a proximal end thereof;

- a third proximal stop fixedly attached to an interior surface of said middle tube on the proximal end thereof;

- a second distal stop fixedly attached to the interior surface of said middle tube on a distal end thereof;

- a fourth proximal stop fixedly attached to an exterior surface of said distal tube on a proximal end thereof;

- a fifth proximal stop fixedly attached to an interior surface of said distal tube on the proximal end thereof;

- a third distal stop fixedly attached to the interior surface of said distal tube on a distal end thereof; and

- a sixth proximal stop fixedly attached to an exterior surface of said aspiration shaft in a distal region thereof.

10. A method of aspirating a vessel comprising:

- introducing a guidewire into the vessel;

- providing an aspiration catheter having an aspiration shaft slidably connected to a telescoping outer sheath, wherein said telescoping outer sheath is in a fully contracted configuration;

inserting a proximal end of the guidewire into the telescoping outer sheath;

pushing said aspiration shaft distally, thereby causing said telescoping outer sheath to expand;

maneuvering said aspiration catheter along said guidewire to a treatment site; and

aspirating the vessel.

11. The method of aspirating a vessel according to claim 10, wherein said aspiration catheter includes a guidewire shaft having a guidewire lumen, said guidewire shaft being disposed on a distal segment of said aspiration shaft, and said guidewire is threaded through said guidewire lumen into said telescoping sheath.

12. The method of aspirating a vessel according to claim 10, further comprising:

pulling said aspiration shaft proximally, thereby causing said telescoping outer sheath to contract; and

removing said aspiration catheter from the guidewire.

13. A method of aspirating a vessel comprising:

providing an aspiration catheter having an aspiration shaft slidably connected to a telescoping outer sheath, wherein said telescoping outer sheath is in a fully contracted configuration;

inserting a distal end of said aspiration catheter into said vessel;

pushing said aspiration shaft distally, thereby causing said telescoping outer sheath to expand;

maneuvering said aspiration catheter through said vessel to a treatment site; and

aspirating the vessel.

14. The method of aspirating a vessel according to claim 13, further comprising:

pulling said aspiration shaft proximally, thereby causing said telescoping outer sheath to contract; and

removing said aspiration catheter from said vessel.